SBR No. 14/23-24
DATED 28.04.2023

Original / Duplicate / Triplicate

EE/ELE/Y/BR.No.....

CONTRACT CERTIFICATE

(For Other Works)

No. 1st ~~& Final bill~~ Date.....20..... Dt.....

Division: Yelahanka Project

Bill Received No.....Dated.....Cash Book Voucher No.....dated.....

Scheduled Docket No.....

Name of Work: Providing Decorative / Ornamental / Pathway Lights with Poles in Parks and Footpaths and energy efficient street lights, real time street light control switches, control wires, poles ABC cable and other accessories in Ward No.01, 03 and 04

Name of Contractor and Full Address: **Sri. Madhusudhan A N (Suraksha Electrical)**

Work Order No: EE(Project)/Ynk Zone/Wo/49/2022-23 , Dated:19/11/2022

Agreement No: EE(Project)/Ynk Zone/AG/38/2022-23 , Dated:18/11/2022

Job Code:004-23-000004

Certified that the measurements were taken by me on 10/4/23 and recorded in pages 260034400042 Of measurement Book No. 2601/22-23 and that the work is satisfactorily executed.

For M/s SURAKSHA ELECTRICALS

Contractor **Officer-in-charge of work**

Certified that the measurements were taken by me on 10/4/23 ... and found correct. The work is satisfactorily executed.

Certified that the quantities of materials shown in column 3 of Account II have been actually brought to site of the work and the contractor has not previously received any advance on this security. These materials are of an imperishable nature and are all required for immediate use on the work in connection with items for finished work have been agreed upon. A normal agreement signed and executed by the contractor is recorded in the office.

IC (ವಿದ್ಯುತ್) ಯಲಹಂಕ ಉಪ-ವಿಭಾಗ
ಬೆಸ್ಕಾಂ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Sub-Division Officer

If Memorandum of Payment

1)	Total value of work done or supplies made as per account within	1Standfunkti- 51543000:00
2)	Deduct amount to be held in reserve being.....percent Rs.....	
3)	Deduct amount to be held in Balance	IT 1% 515430:00
4)	Deduct Payment :	LWC 1% 515430:00
	a) Amount of previous payment as in the Office Cash Book Voucher No.....Dated.....S.D No.....	CBF-0.4% 51543:00
	Amount adjusted towards cash advance recovery of	
	b) Payments cost store or other materials supplied.	CGST 4% 468120:00
	Now made recovery of amount creditable to this/other work	SGST 4% 468120:00
	Amount paid on this bill Cheque/Cash	LR 9816:00
5)	Balance being unpaid value of work done held in reserve	
6)	Deduct cash advance made on the office Cash Book Voucher No..... date .....less adjustments	Deduction 2028459:00
7)	Net amount due to or from contractor	
	Unadjusted items	
8)	Advance to contractor for materials brought to site (as detailed) within value of Governme materials supplied	Bycheque 49514541:00

Contractor's Signature

For M/s SURAKSHA ELECTRICALS

Received Rs.....(in words)

By Cash and by adjustment of Payment as per memorandum.

Witnesses :

1. For M/s SURAKSHA ELECTRICALS

2. Proprietor

Dated.....Signature of Contractor

Proprietor

(For use in the Office)

ಗುತ್ತಿಗೆದಾರರ P 3877 Annrath Nayak

ರೂ. 51543000:00 ಅಡಿಯ ಮೂರು ಸ್ವೀಕರಿಸಿದೆ

Paid by me by cheque No.....Dated..... ರೂ. 49514541:00 ನೀಡಲಾಗಿದೆ

Cash Rs.....Dated..... ರೂ. 2028459:00 ಹಿಂಪಾವತಿ ಪಡೆದಿದೆ

ಲೆಕ್ಕ ಪರಿಶೋಧರು

Initials of Officer Making Payment **Executive Engineer**

BRUHAT BANGALORE MAHANAGARA PALIKE

Project Division, Yelahanka Zone

NAME OF WORK:- Providing Decorative / Ornamental / Pathway Lights with Poles in Parks and Footpaths and energy efficient street lights, real time street light control switches, control wires, poles ABC cable and other accessories in Ward No.01, 03 and 04

ABSTRACT

RA Bill-01

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
			Qty	Rate	Amount	Qty	Amount	Qty	Rate	Amount	Qty	Amount
1	Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3)	Cum	126.52	214.81	27177.99	-	-	126.52	214.81	27177.99	126.52	27177.99
2	Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:3:6 (M10) Using 40 mm nominal size graded crushed coarse aggregates	Cum	11.35	6414.38	72803.26	-	-	11.35	6414.38	72803.26	11.35	72803.26
3	Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications.	Ton	6.72	106447.95	715539.18	-	-	6.72	106447.95	715539.18	6.72	715539.18

715330.20

Sl No	Description of Work	Unit	As per Shedule /B			Previous Measurement		Present Measurement			Up to date	
4	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates	Cum	128.26	7237.18	928204.31	-	-	128.26	7237.18	928240.20 928204.31	128.26	92820431
5	Providing and Fixing Pre cast covering Slab 100mm thick made out of CC, jelly 20mm Down size with steel reinforcement including form work,curing,including cost of alll materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge.	Sqm	108.00	2175.44	234947.87	-	-	108.00	2175.44	234947.87	108.00	23494787
6	Providing and fixing pre cast solid cement concrete kerb stones made out of CC M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete.	Nos	522.00	532.30	277862.64	-	-	522.00	532.30	277862.64 277860.60	522.00	27786264

Sl No	Description of Work	Unit	As per Shedule :B			Previous Measurement		Present Measurement			Up to date	
7	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 90 Watts	Nos	700.00	8157.91	5710538.61	-	-	700.00	8157.91	5710538.61	700.00	571053861

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
8	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 120 Watts	Nos	80.00	10497.11	839768.90	-	-	80.00	10497.11	839768.90	80.00	83976890

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
9	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 150 Watts	Nos	190.00	14102.48	2679470.92	-	-	190.00	14102.48	2679470.92	190.00	2679470.92

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
10	Supply of LED floodlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/clear glass material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm.Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/ IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Floodlight 240W	Nos	250.00	20994.12	5248531.15	-	-	250.00	20994.12	5248531.15	250.00	524853115
11	Supplying and Fixing of.....mm dia class A GI pipe bracket upto 2 ms long bent at suitable angle and fixing to this bracket 1x40/2x40 W fluorescent tube street light fitting of all capacities to GI or GI or rail or RCC pole / wall using suitable clA, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe	Each	700.00	947.08	662955.86	-	-	700.00	947.08	662955.86	700.00	662955.86
12	Fabricating, supplying and erection of ...Mtrs long hot dip Galvanized Octagonal pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.7 meters - Top 70mm and bottom 130mm dia	Nos	0.00	12636.81	0.00	-	-	0.00	12636.81	0.00	0.00	0.00

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
13	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Double Arm Bracket with 1500mm Standard 40/50MM dia	Nos	0.00	3270.51	0.00	-	-	0.00	3270.51	0.00	0.00	0.00
14	Fabricating, supplying and erecting swaged tubular pole of height …Mtr having three sections, and providing two coats of red oxide paint and finished with two coats of enamelled paint of approved quality and colour and M.S. base plate of suitable size welded at the bottom of the pole(as per IS) and 40mm dia GI / flexible PVC pipe of 1 mtr length fitted to the heavy gauge polycarbonate control box including 5way connector of size 167x125x82mm for 7.5M pole/200x160x98mm for remaining length of pole with front opening cover, with locking arrangements and suitable capacity MCB / DP switch, The pole shall be erected in cement concrete work (1:2:4) including excavation and refilling of planting depth of the pole to the ground level and the coping CC shall be up to 0.6M above ground level as per IS 2713 - 7.Erection of heavy duty pole on Footpath / median 10Mt (5Mt Hb,165.1mm dia 4.85mm thick x3M Hm, 139.7mm dia 4.50mm thick x 2M Ht,114.3mm dia 3.65mm thick) as per IS 410 SP 47	Each	25.00	18019.69	450492.17	-	-	25.00	18019.69	450492.17	25.00	450492.17
	Above 125%	Each	161.00	18019.69	2901169.57	-	-	161.00	18019.69	2901169.57	161.00	2901169.57
15	Supplying and fixing telescopic M.S. bracket fabricated by using 0.5m length 4" dia telescopic M. S. pipe, with 2" dia 1.5m long M. S. bracket and are welded with suitable angle, using 6mm thick M. S. sheet, grip bolts & nuts, as required, suitable for 9 to 12 Mtrs. M. S. tubular pole, with necessary two coats of painting, with all other accessories.Single bracket 1.5 Mtr. Length	Each	25.00	1360.78	34019.46	-	-	25.00	1360.78	34019.46	25.00	34019.46
0	Above 125%	Each	161.00	1360.78	219085.32	-	-	161.00	1360.78	219085.32	161.00	219085.32
16	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 16 Sqmm, 4 Core, (11 GI Strips - 4 x 0.8 mm)	Km	2.80	192599.01	539469.83	-	-	2.80	192599.01	539469.83	2.80	539469.83
17	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 25 Sqmm, 3.5 Core, (12 GI Strips - 4 x 0.8 mm)	Km	1.50	190509.46	285764.19	-	-	1.50	190509.46	285764.19	1.50	285764.19
0	Above 125%	Km	0.15	190509.46	28957.44	-	-	0.15	190509.46	28957.44	0.15	28957.44
18	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 35 Sqmm, 3.5 Core, (14 GI Strips - 4 x 0.8 mm)	Km	0.32	219086.10	69012.12	-	-	0.32	219086.10	69012.12	0.32	69012.12

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
19	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff 2.5 to 25 Sqmm	Km	4.45	16965.56	75547.63	-	-	4.45	16965.56	75547.63	4.45	75547.63
20	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff 35 to 95 Sqmm	Km	0.32	24827.79	7820.75	-	-	0.32	24827.79	7820.75	0.32	7820.75
21	Earth work excavation for cable trench of 0.4 to 0.6 Mtr. Width and Depth upto 1 Mtr including trial pits, depositing on bank upto a lead of 50 Mtr, Supplying and Displaying necessary Danger Boards and Lighting, Using sight Rails and Sign Boards at every 100 Mtr wherever necessary as directed In Ordinary Soil	Cum	577.44	272.96	157617.32	-	-	577.44	272.96	157617.32	577.44	15761732
22	Refilling the cable trenches with selected available earth from trench excavation including watering, consolidation in layers of 15 cm. Thickness including depositing of the surplus earth with a lead of 200 Mtr	Cum	577.44	60.92	35176.88	-	-	577.44	60.92	35176.88	577.44	35176.88
23	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:2010 4C X 1.5Sq.mm	Mtrs	1875.00	92.40	173243.62	-	-	1875.00	92.40	173243.62	1875.00	17324362
0	Above 125%	Mtrs	381.00	92.40	35203.10	-	-	381.00	92.40	35203.10	381.00	35203.10
24	GI Pipe B - Class as per IS-1239 GI Pipe - 40 mm Dia	Mtrs	50.00	309.69	15484.31	-	-	50.00	309.69	15484.31	50.00	15484.31
25	Supplying of Epoxy Terminating Kit (Pothead) suitable for 1.1 kV, LTUG Cable Up to 4C x 50 Sqmm	Nos	10.00	331.72	3317.23	-	-	10.00	331.72	3317.23	10.00	3317.23
26	Supply Heavy Duty Copper Terminal Long Barrel.25 Sqmm Copper Terminal, Apprx Wt: 11Gm	Nos	700.00	30.36	21252.98	-	-	700.00	30.36	21252.98	700.00	21252.98
27	Rod type of earthing using 40 mm Dia, 3 Mtr long MS rod as ground rod, in earth pit of 300 mm width and 3300 mm depth and using 50x6 mm flat welded to ground rod as terminal & connected to equipment ground terminal using PVC Al wire as specified	Nos	10.00	2365.45	23654.47	-	-	10.00	2365.45	23654.47	10.00	23654.47
28	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs	80.00	288.92	23113.84	-	-	80.00	288.92	23113.84	80.00	23113.84
29	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG	Sqm m	350000.00	0.40	140543.90	-	-	350000.00	0.40	140543.90	350000.00	140543.90

Sl No	Description of Work	Unit	As per Sheduele -II			Previous Measurement		Present Measurement			Up to date	
30	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit in Thermal Magnetic Release. Micro processor release shall have Earth Fault as per IS-13947. (Icu=100% Ics). In 4P MCCB, all Poles should have protection for Short-Circuit/Over Load. For Microprocessor MCCBS Facility for segregating Priority and Non-Priority loads must be available in the MCCB. MCCB shall be provided with double insulation (insulation between front cover and internal power circuits to avoid any accidental contact with live current carrying path with the front cover open). Multi-pole breakers shall be designed to break all the poles simultaneously and they shall have a single mechanism complete. FOUR Pole 100 A 25 kA	Nos	10.00	8677.56	86775.62	-	-	10.00	8677.56	86775.62	10.00	86775.62
31	Fixing halogen/mental halide /SLV/IL /LED Floodlight fitting over existing pole / Wall ceiling including clamps, bolts, Nuts and wiring using suitable capacity	Nos	1220.00	198.43	242080.26	-	-	1220.00	198.43	242080.26	1220.00	24208026
32	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K	Each	31.00	457.77	14190.92	-	-	31.00	457.77	14190.92	31.00	14190.92
33	Supplying Spiral Earth Electrode	Each	31.00	260.42	8073.10	-	-	31.00	260.42	8073.10	31.00	8073.10
34	Dismanting of Steel/I- Beam/Tubular poles (90% of the Pole erection charges.p2/2.01 Rs 688.00x90%=619.2)	Each	50.00	650.03	32501.39	-	-	50.00	650.03	32501.39	50.00	32501.39
35	Releasing of existing LEd street light(Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires. (Releasing of LED Lights=90% of erction Charges Rs 189x90%=170.10)	Each	190.00	178.54	33923.48	-	-	190.00	178.54	33923.48	190.00	33923.48
36	Mobile Hydraulic Crane 35 t capacity for releasing and refixing of High Mast	hour	150.00	1835.30	275294.65	-	-	150.00	1835.30	275294.65	150.00	275294.65
37	Supply of 1.1 kV, LT Aerial Bunched Cable, XLPE insulation confirming to IS-14255: 1995 3x25 + 1x25 + 1x16 Sqmm Street light (Insulated Messenger cum Neutral)	Km	6.25	208355.99	1302224.93	-	-	6.25	208355.99	1302224.93	6.25	1302224.93
0	Above 125%	Km	1.54	208355.99	320451.51	-	-	1.54	208355.99	320451.51	1.54	320451.51
38	Piercing Connector Suitable for 16 Sqmm - 95 Sqmm AB Cable - Street Light Connection	Nos	360.00	191.08	68789.14	-	-	360.00	191.08	68789.14	360.00	68789.14

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date		
39	Dead End Clamp/Anchor Clamp Assembly 25 to 95 Sqmm Bare Messenger(Exclusive of Pole Clamp and Eye Hook)	Nos	25.00	156.41	3910.25	-	-	25.00	156.41	3910.25	25.00	3753.84	
40	Suspension Clamp Assembly 16 to 70 Sqmm Bare Messenger (Exclusive of Pole Clamp and Eye Hook	Nos	60.00	226.78	13606.80	-	-	60.00	226.78	13606.80	60.00	13606.80	
41	Stringing of 1.1 kV grade Aerial Bunched 3 Core cable of XLPE insulation of size (3x95) (Phase Conductor) + (1x70) (Insulated Messenger Neutral) + (1x25) (Street Light Control)	Km	7.79	27128.79	211279.03	-	-	7.79	27128.79	211279.03	7.79	21127903	
42	Erection of Suspension Clamp - 25 to 95 Sqmm bare messenger	Nos	60.00	153.28	9196.57	-	-	60.00	153.28	9196.57	60.00	9196.57	
43	Installation of Insulation piercing connector for Main to Street Light Main : 16-95 Sqmm, Tap: 1.5-10 Sqmm (EP95)	Nos	360.00	71.40	25703.37	-	-	360.00	71.40	25703.37	360.00	25703.37	
44	Fixing of Dead End Clamp	Nos	25.00	305.57	7639.32	-	-	25.00	305.57	7639.32	25.00	7639.32	
45	Centralized Control & Monitoring Sysem (CCMS) for Streetlights consisting of: Supply and erection of Thyristor based single phase smart streetlight control and monitoring system remotely control and monitorable smart streetlight system by using web or mbile application Remote lighting management based on Master control unit (MCU): handles controlling data handling other communication process. Commiunication units : GSM/GPRS Gate driver unit : for driving the Thyristor switching Thristor: SCR 106 Amps dual Thyristor moduel for switching Embedded firmware: firmware to control, handle, Process the data and communicate it wirelessly and IP 65 weather proof MS Enclosure.	Nos	10.00	72213.32	722133.17	-	-	10.00	72213.32	722133.17	10.00	72213.17	
46	Supply and errection of Single phase 63 Amps Thyristor based Streetlight control system consisting of: micro controller based electronic Timer with RTC, 2x16 LCD with back light, 5 Tactile keys, 106 Thyristor module for load switching mouted on extruded aluminium heat sink, Thyristor driver card for switching Thyristor module, 2 numbers of 63 Amps MCB for over load protection and manual switching, 18 SWG CRACA MS sheet enclouser.	Nos	50.00	31287.52	1564376.03	-	-	50.00	31287.52	1564376.03	50.00	1564376.03	
47	Supply and erection of 3 Mtr long Aluminium decorative Pole with 60 watt LED Light made out of single piece extruded alluminium 75x150mm with 3 MM thickness,self "U" type in built grove for strip lighting with same dimension attached Square arm of size 600x600mm curvature at the top with Two nos of Light, Blue/pinck colour Strip Light should be conduted along the Pole and Square light on liner side, Grey Colour Powder Coated, strip wattage 20W, pole is mounted on base Plate of 200x200 with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB Cutting of 500mm from the bottom of the pole with 12 inches Height.as per the Drawing enclosed . Model name & Make :Square super , Emerald Lighting Solutions or any equalent	Nos	40.00	42469.13	1698765.38	-	-	40.00	42469.13	1698765.38	40.00	1698765.38	

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
48	Supply and erection of 3 Mtr long Aluminium Pole with 60 watt LED Light made out of extruded alluminium 75x150mm with 3 MM thickness, with same dimention extended diamond shape bent at 45 deg Bracket, Diamond of size 400x780 mm Shaped Curvature suspended from the Bracket, Blue/pinck colour Strip Light should be conduted along the Pole, bracket and Diomend Shape on linear side, Grey Colour Powder Coated, strip wattage 20W, pole is mounted on base Plate of 200x200 with required 4 nos foundation Bolts,templates suitable for cable entry hole of 60mm at the bottom of the Pole. MCB Cutting of 500mm from the bottom of the pole with 12 inches Height.as per the Drawing enclosed. Model name & Make :Diamond Cargo , Emerald Lighting Solutions or any equalent	Nos	0.00	54956.88	0.00	-	-	0.00	54956.88	0.00	0.00	0.00
49	Supply and erection of 3 Mtr long Aluminium Pole with 60 watt LED Light made out of extruded alluminium 75x150mm with 3 MM thickness, self "U" type in built grove for strip lighting with same dimension extended Z tye bent arm Bracket and Blue/pinck colour Strip Light should be conduted along the Pole and bracket on liner side, Grey Colour Powder Coated, strip wattage 20W, pole is mounted on base Plate of 200x200 with required 4 nos foundation Bolts, templates suitable for cable entry hole of 60mm at the bottom of the Pole. MCB Cutting of 500mm from the bottom of the pole with 12 inches Height.as per the Drawing enclosed. Model name & Make :Krishi , Emerald Lighting Solutions or any equalent	Nos	28.00	39056.90	1093593.34	-	-	28.00	39056.90	1093593.34	28.00	109359334
50	Supply of 3 Mtr Powder Coated Mild Steel Pole with 3mm thickness having top Triangle shape with light 36w and arm light 24w Body Colour Grey/Black . 3mtr pole will have blue colour 20w strip on double side of the pole. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height. Make : Emerald Lighting Solutions Model XENON X-VI or any equalent	Nos	20.00	45933.86	918677.20	-	-	20.00	45933.86	918677.20	20.00	91867720
51	Supply of 3 Mtr Powder Coated Mild Steel Pole with 3mm thickness having top Giraffe neck shape with light 36w and Body Colour Grey/Black . 3mtr pole will have blue colour 20w strip on double side of the pole. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height. Make : Emerald Lighting solutions Model GIRAFFEE or any equalent	Nos	40.00	45566.39	1822655.56	-	-	40.00	45566.39	1822655.56	40.00	1822655.56

	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
	Supply of 3 Mtr Powder Coated Mild Steel Pole with 3mm thickness having top Triangle shape, Arm will have 600mm length at one side PCB will be palced with 36w light output , Body Colour Grey/Black . 3mtr pole and top triangle fixture will have blue colour 20w strip on double side of the pole. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height. Make : Emerald Lighting solutions Model TRIO or any equalent	Nos	25.00	47771.21	1194280.36	-	-	25.00	47771.21	1194280.36	25.00	119428036
1	Supply of Pressure die Cast body housing landscape Round Light, dimensions Dia:600mm,Hight 430mm and mounting dia OD 60mm, LED Light having 60w output and Body colour Grey/Black. Make : Emerald Lighting solutions Model,LUNAR or any equalent	Nos	52.00	18898.50	982722.12	-	-	52.00	18898.50	982722.12	52.00	98272212
4	Fabricating, Supplying and errection of decorative bent type Tuskar Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height and 139.7 mm dia perforated pole having colour changing LED Fixture, inside as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 18 mm for poles and a common baseplate of 900x320x20 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 6 nos 24 mm x750mm anchor bolts.	Nos	31.00	122446.55	3795842.95	-	-	31.00	122446.55	3795842.95	31.00	379584295
55	Fabricating, Supplying and errection of decorative Zig- Zag bent type Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 7 mtrs towards road and 5 Mtrs footpath.between the pole V shaped MS/any decorativ laser cutting jolly work The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom square pipr of 175x175x4mmx2 Mtrs length and above 2 mtrs a dia of 76.1x3.25mmx5Mtrs and 3 Mtrs, as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 16 mm the pole shall be galvanized with not less than 65 micron etc and finally finished with PU paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat 4 nos M20 x750mm anchor bolts.	Nos	74.00	94230.03	6973022.43	-	-	74.00	94230.03	6973022.43	74.00	6973022.43

Sl No	Description of Work	Unit	As per Shedule -B			Previous Measurement		Present Measurement			Up to date	
56	Supply, instalation testing and commissioning of LED RGB inground 7 to 9 watt uplighter for landscape,path lighting bush lighting & etc, made out of die-cast anti-corodal aluminium alloy for optimal thermal dissipation the LEDs should be high quality COB chips Osram&bridgelux the beam angle of the fitting shall be narow,medium,wide or asymetric as per the requirment.luminaire shall be complete with driver and capabal of operating at line voltage with out any separate power supply from 100 to 270 V AC,50 hz, power factor>0.9 shall be IP 66 and ik06 rated.life time should be at least L70:50000 burning hours at 50c. Luminaire shall be confirming to BIS and shall be complete with all necessry accessories required for proper working of fixture including weather proof connection cables, water proof connector etc as required.	Nos	0.00	9790.47	0.00			0.00	9790.47	0.00	0.00	0.00
57	Supplying and laying of copper 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable Armouring strip thickness in average +5% 4 core 6 sqmm copper cable.	Nos	0.00	6220.76	0.00			0.00	6220.76	0.00	0.00	0.00
58	Supplying and laying of copper 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable Armouring strip thickness in average +5% 4 core 6 sqmm copper cable.	Nos	0.00	358.60	0.00			0.00	358.60	0.00	0.00	0.00
59	Fabricating, Supplying and errection of Garden speaker protective enclsoure of size H 91.55mmxL30.50mmxB30.50mm fabricated out of MS 1"1/8 L angle and 1" weld mesh with bolts, washers , nuts & etc; and painted with 2 coats of red oxide and then two coats of green/any approved enaml paint.	Nos	80.00	6037.02	482961.73			80.00	6037.02	482961.73	80.00	482961.73
60	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mts	195.00	890.33	173615.01			195.00	890.33	173615.01	195.00	173615.01
	Above 125%	Mts	109.00	890.33	97046.34			109.00	890.33	97046.34	109.00	97046.34
	Total				**46813078.78**			46812155	(46812616.80)	4731429.54	46812155	**46812616.80** 4731429.54
	GST 18%For Item No-01 to 48 and 60				**4731429.54**					(51544046.35)		**51544046.35**
	Grand Total				**51544508.33**					51543585		51543585

CERTIFICATE

1 Certified that the work done is satisfactorily.

2 There is no departmental issues by BBMP

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Contractor

Consultant

Asst. Engineer

Asst. Executive Engineer,

Assistant Executive Engineer (Ele

BBMP, Bangalore